

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

RAJYA SABHA
UNSTARRED QUESTION NO. 2291
TO BE ANSWERED ON 20/03/2025

Climate Change and Environmental Concerns in Himalayas

2291. SHRI SANJAY RAUT:

Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

- (a) Government's long-term plan to tackle the increasing frequency of extreme weather events in the Himalayan States;
- (b) whether any study has being conducted to assess the impact of climate change on Himalayan glaciers and its role in triggering disasters;
- (c) the steps being taken to prevent further environmental degradation due to deforestation, unregulated construction and tourism;
- (d) whether there are any plans to establish a dedicated disaster mitigation task force for Himachal Pradesh and Uttarakhand; and
- (e) whether the Central Government has consulted local communities and experts to formulate better disaster preparedness policies?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(SHRI KIRTI VARDHAN SINGH)

(a) Reports from various sources including Intergovernmental Panel on Climate Change highlight that the challenges faced due to global warming are mainly due to cumulative historical and current greenhouse gas emissions of the developed countries. The reports also reflect increase in frequency of extreme weather events across the globe. Like many other countries, India is also vulnerable to impacts of climate change.

The Government of India is seized of the matter and it stands committed to combating impacts of climate change. The Government has launched and implementing several programmes and schemes including the National Action Plan on Climate Change (NAPCC) which comprises missions in specific areas of solar energy, energy efficiency, water, sustainable agriculture, health, Himalayan ecosystem, sustainable habitat, green India, and strategic knowledge for climate change. The NAPCC provides an overarching framework for all climate actions. Thirty-four States/Union Territories (UTs) have prepared their State Action Plans on Climate Change (SAPCC) in line with NAPCC considering the State specific issues relating to climate change. The responsibility of the implementation of the SAPCC's rest with the respective States.

Amongst the mission of NAPCC, the Department of Science and Technology leads two key initiatives: (1) The National Mission for Sustaining the Himalayan Ecosystem (NMSHE), which monitors and assesses the Himalayan ecosystem, and (2) The National Mission on Strategic Knowledge for Climate Change (NMSKCC), which builds capacities in climate science, adaptation, and mitigation.

Additionally, the Indian Himalaya Climate Adaptation Programme (IHCAP) supports NMSHE by strengthening information systems, institutional capacities, and financial resources to implement state climate action plans. These initiatives aim to mitigate extreme weather impacts, promote sustainability, and enhance resilience in the Himalayan region.

(b) Studies have been conducted to assess the impacts of climate change on Himalayan glaciers and their role in triggering disasters. The Wadia Institute of Himalayan Geology (WIHG) under the Department of Science and technology has been playing important role in monitoring glaciers, and associated lake assessment through both field-based observations and remote sensing techniques.

The Geological Survey of India (GSI) has conducted mass balance studies on nine glaciers to assess the annual loss/gain of snow /ice and also carried out secular movement studies on 104 glaciers to access the recessional and advancement pattern of the glacier.

Indian Space Research Organization (ISRO) has monitored the glacier advance and retreat of 2018 glaciers, across the Indian Himalayan region using satellite data of 2000-01 to 2010-11.

The Ministry of Environment, Forest and Climate Change (MoEFCC) through the various research activities of its autonomous body, Govind Ballabh Pant National Institute of Himalayan Environment (GBNIHE), Almora and through various projects funded under the National Mission on Himalayan Studies (NMHS) has contributed to better understanding the impact of climate change on Himalayan glaciers. A discussion paper on “Himalayan Glaciers: A State-of-Art Review of Glacial Studies, Glacial Retreat and Climate Change” was prepared by the Institute in 2009 to facilitate informed science-based discussion and policy planning on critical environmental issues of Himalayan glaciers

(c) The India State of Forest Report (ISFR) 2023 shows that the country's Forest and Tree cover now spans 827,357 square kilometers, covering 25.17% of the nation's total land area. It also highlights the positive growth in India's forest cover, increasing from 698,712 km² in 2013 to 715,343 km² in 2023. Fire incidents have also decreased.

This progress reflects India's successful efforts to balance development with environmental conservation.

The protection and management of forest and tree resources is primarily the responsibility of the State Governments/Union Territory Administrations. There are legal frameworks for the protection and management of forest and tree resources of the country, which include, the Indian Forest Act, 1927; Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980; the Wildlife (Protection) Act, 1972; and the State Forest Acts and Rules. The MoEFCC issues advisories to State Governments/UT Administrations to protect forests and wildlife, as per the provisions of the law. In addition, the MoEFCC provides technical and financial support to the States /UTs for protection, conservation and management of forests in the country through various centrally sponsored schemes. For afforestation, the Government has provided funds under various

schemes and programmes, which include National Mission for a Green India (GIM), Integrated Development of Wildlife Habitats, Nagar Van Yojana (NVY). These funds support the efforts of the States and UTs for ecological restoration through afforestation in and outside forest areas, forest landscape restoration, habitat improvement, soil and water conservation measures, and protection etc.

The project/ activity, including the including the Hydro Power Projects having power generation capacity ≥ 25 MW and the irrigation projects with culturable command area > 2000 Ha, listed under schedule to the Environment Impact Assessment (EIA) Notification 2006, as amended requires prior environmental Clearance (EC) in accordance with the provisions of the notification.

The notification inter-alia provides the detailed procedure for conducting Environmental Impact Assessment (EIA) and preparation of Environmental Management Plan (EMP) in accordance with the Terms of Reference (ToR) prescribed by the Expert Appraisal Committee (EAC), comprising of domain area experts to address the aspects related to biodiversity, socio-economic factors, geology, hydrology, and disaster management for projects. After detailed deliberation/ examination and appraisal of all these environmental and social concerns associated with the project activity, the EC is granted with suitable environmental safeguards viz. preparation and implementation of Catchment Area Treatment (CAT) Plan, Biodiversity Conservation Plan, Reservoir Rim Treatment Plan preparation of Disaster Management Plan (DMP), establishment of Early Warning System (EWS) etc. so as to minimize possible environmental impacts on the local ecosystem.

As per the information from the Ministry of Tourism, 'Environmental Sustainability and Socio-Cultural Sustainability' are two key pillars in the National Strategy for Sustainable Tourism. In line with the strategy, Travel for LiFE programme has been initiated to promote sustainable tourism in the country and to encourage tourists and tourism businesses to adopt sustainable tourism practices. The Swadesh Darshan Scheme of the Ministry has been revamped as Swadesh Darshan 2.0 (SD2.0) with the objective to develop sustainable and responsible tourism destinations following a tourist & destination centric approach. The Scheme encourages adoption of principles of sustainable tourism including environmental sustainability, socio-cultural sustainability, and economic sustainability.

(d) and (e) The primary responsibility for disaster management including disbursement of relief assistance on ground level rests with the State Governments concerned. The Central Government provides requisite logistics and financial assistance to support the efforts of the State Governments. Some of the key steps taken by the central government to enhance disaster preparedness and resilience in the country are enactment of the Disaster Management Act, 2005 which provides legal and institutional framework for the effective management of disasters; national disaster management plan which provides a framework and direction to the Government agencies for all phases of disaster management cycle; approval of Rs. 1000 Crore National Landslide Risk Mitigation Programme which includes implementation of landslide risk mitigation activities / projects for 15 States including States of Himachal Pradesh and Uttarakhand; implementation of 'Aapda Mitra Scheme', wherein 1,00,000 community volunteers have been trained in disaster rescue in 350 multi-hazards disaster prone districts covering all States/UTs; Common Alerting Protocol (CAP) based Integrated Alert System' for dissemination of geo targeted early warnings/alerts related to disasters to the citizens of India for all 36 States/UTs using various disseminating medium like SMS, TV, Radio, etc. and strengthening of communication and warning dissemination network by the States; setting up

of National Disaster Relief Fund and State Disaster Relief Fund; setting up of National Disaster Response Force (NDRF) and State Disaster Response Force (SDRF); pre-positioning of NDRF and SDRF at vulnerable locations by the States; and conduct of Mock Exercises in all 36 States / UTs on community disaster awareness in Floods, Cyclones, Earthquake, Landslide & Chemical, Biological, Radiological, and Nuclear (CBRN) in vulnerable areas with various stakeholders of Disaster Management / Response by NDRF. The NDRF also conducts School Safety Programme (SSP) to impart training on disaster response to children in vulnerable schools in all 36 States/UTs of India.
